

APPENDIX 1
DETAILED TECHNICAL SPECIFICATIONS
FOR
CONSTRUCTING TAILINGS STORAGE FACILITY

SPECIFICATIONS

For

CENTENNIAL MINE PROCESSING FACILITY SMALL-SCALE TAILINGS STORAGE FACILITY

For

DESERT MINERALS MINING, LLC

**Rothberg
Tamburini
Winsor**

NOVEMBER 2004

Professional Engineers and Consultants

SPECIFICATIONS

for

CENTENNIAL MINE PROCESSING FACILITY SMALL-SCALE TAILINGS STORAGE FACILITY

for

DESERT MINERALS MINING, LLC

I hereby certify that these Specifications were prepared by myself or under my direct supervision, and that I am a duly Registered Professional Engineer under the laws of the State of Idaho .

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RTW Project No. FR-6562-CD

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SECTION 02200

EARTHWORK

PART 1 GENERAL

1.1 DESCRIPTION

- A. Clearing, grubbing, and site preparation
- B. Removal and disposal of debris
- C. Handling, storage, transportation, and disposal of excavated material
- D. Pumping and dewatering as required or necessary
- E. Backfilling
- F. Construction of fills and embankments
- G. Final grading
- H. Slope Stabilization
- I. Appurtenant work

1.2 RELATED SECTIONS

- A. Section 02777— Geomembrane Liner, Geotextile and HDPE Piping

1.3 REFERENCES

- A. ASTM C136—Sieve Analysis of Fine and Coarse Aggregates
- B. ASTM D698—Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5 lb Rammer and 12-Inch Drop
- C. ASTM D2922—Test Methods for Density of Soil and Soil-Aggregate Mixtures in Place by Nuclear Methods (Shallow Depth)
- D. ASTM D3017—Test Method for Moisture Content of Soil and Soil-Aggregate Mixtures

1.4 REGULATORY REQUIREMENTS

- A. Comply with all local, State and Federal laws and regulations

1.5 ENVIRONMENTAL REQUIREMENTS

- A. Protect adjacent structures and surrounding areas from damage during excavation, filling, and backfilling
- B. Protect work from erosion or other similar types of damage until the project has been completed
- C. Do not use frozen materials, snow, or ice in any backfill or fill area

PART 2 PRODUCTS

2.1 MATERIALS

- A. Classification of Excavated Materials:
 - 1. None
 - 2. Remove and handle excavated materials regardless of type, character, composition, condition, or depth of material at no additional cost to Owner
 - 3. Remove and handle excavated materials regardless of means, methods, and techniques required, at no additional cost to Owner
- B. Random Fill:
 - 1. To the max extent practical use excess earth from excavation
 - 2. Obtain additional material from identified borrow areas as necessary
 - 3. Free from rocks or stones larger than 6 inches in greatest dimension and free from brush, stumps, logs, roots, debris, and organic and other deleterious materials
 - 4. Upon Engineer's approval, distribute rocks and stones of acceptable size through the fill so as not to interfere with compaction
- C. Topsoil (Growth Medium):
 - 1. Native material removed and stockpiled before excavation or from designated stockpiles identified by the Engineer
 - 2. Free from trash and debris
- D. Liner Bedding Material
 - 1. Free from rock particles larger than 3-inches, organics, trash and debris
 - 2. Material should be approved by engineer

2.2 ACCESSORIES

- A. Straw bales used for erosion control barriers: Wire or string wound and less than one year old. Do not use bales in an advanced state of deterioration regardless of age
- B. Stakes for erosion control bales: No. 4 reinforcing steel or 2-inch by 2-inch wood stakes
- C. Silt Fence Fabric: Woven polypropylene:
 - 1. Mirafi 100X for "Envirofence" installations

2. Or approved equal

PART 3 EXECUTION

3.1 EXAMINATION

- A. Field verify the location of all underground utilities, pipelines and structures that need to be preserved prior to excavation

3.2 PREPARATION

- A. Clear sites to be occupied by permanent construction of roots, brush, and other objectionable material and debris
- B. Grub and strip subgrade for fills and embankments of surface vegetation and organic topsoil
- C. Remove waste materials from site and dispose
- D. Remove debris and other combustible materials from site and dispose of off-site; on-site burning is not permitted

3.3 TOPSOIL

- A. Remove and stockpile all material classified as topsoil from the area of the work
- B. At the completion of all site construction, place and grade available topsoil to allow reclaiming all surface disturbance. Placement will be in a single uniform lift to evenly distribute the remaining topsoil resources

3.4 LINER BEDDING LAYER

- A. After topsoil is removed and stockpiled remove and stockpile areas of fine materials such as silts, sands and clays to be used as a liner bedding material
- B. A suitable quantity should be obtained to provide for a one foot thick layer over the cell bottom and its slopes

3.5 DEWATERING

- A. Provide and maintain adequate dewatering equipment to remove and dispose of any water source entering excavations and other parts of the work
- B. Keep each excavation and fill area dry during subgrade preparation and continually thereafter until the element to be installed is completed to the extent that no damage from flotation, soft or yielding foundation, or other cause will result

- C. Divert surface water or otherwise prevent it from entering excavated areas or trenches to the extent practical without damaging adjacent property
- D. Obtain and comply with conditions of construction dewatering permit

3.6 RANDOM FILL

- A. Level, roll and scarify subgrade so surface materials will be compact and bond with the first layer of fill (except in trenches)
- B. Place in horizontal layers 12 inch maximum uncompacted depth
- C. Spread and level material deposited in piles and windrows before compacting
- D. Thoroughly compact each layer by rolling or other means acceptable to Engineer to 95 percent of maximum density within 2 percent (+/-) optimum moisture content, ASTM D698
- E. Alter compaction methods if material fails to meet specified density
- F. Add water and harrow, disc, blade, or otherwise work the material to obtain the uniform moisture content prior to placement in the fill

3.7 LINER BEDDING PLACEMENT

- A. Level, roll and scarify random fill so surface materials will be compact and bond with the layer of liner bedding material (except in trenches)
- B. Place in horizontal layers 12 inch maximum uncompacted depth
- C. Liner bedding layer to be placed in minimum two lifts to provide for a 12 inch compacted thickness
- D. Spread and level material stockpiled in piles and windrows before compacting
- E. Thoroughly compact each layer by rolling or other means acceptable to Engineer to 95 percent of maximum density within 2 percent (+/-) optimum moisture content, ASTM D698
- F. Alter compaction methods if material fails to meet specified density
- G. Add water and harrow, disc, blade, or otherwise work the material to obtain the uniform moisture content prior to placement
- H. Proof roll finished surface to provide smooth, even surface, without protrusions for receiving geomembrane liner deployment

3.8 DRAINAGE MAINTENANCE

- A. Maintain free and unobstructed site drainage to the extent practicable at all times during the execution of construction activities
- B. Backfill all excavations with diligence to prevent undue accumulation of water in areas of the construction

3.9 DISPOSAL OF EXCESS EXCAVATED MATERIALS

- A. Use excess excavated materials in required fills and work area reshaping as indicated on the Drawings to the extent needed
- B. Remove debris, junk, and other unsuitable material from the site and dispose of it

3.10 FINAL GRADING AND STABILIZATION

- A. After completion of all required earthwork operations, smooth and dress all disturbances associated with the work
- B. Grade all final surfaces for effective drainage and evenly distribute available remaining topsoil resources in areas delineated by Owner
- C. Seeding of project disturbance to be conducted by Owner or under specific provisions provided in the Contract

3.11 FIELD QUALITY CONTROL

- A. Contractor is responsible for all quality control tasks inherently required to complete the Work in compliance with Project specifications and drawings

3.12 FIELD QUALITY ASSURANCE

- A. As determined by Engineer, but to include observation of typical construction practices including lift placement, moisture conditioning and compaction
- B. Field density testing may involve in situ measurement using nuclear density gage or application of method specification developed during test fill construction, conducted in the presence of the Engineer

END OF SECTION

SECTION 02777

GEOMEMBRANE LINER, GEOTEXTILE AND HDPE PIPING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Complete geomembrane liner and HDPE piping as shown in the drawings. Includes:
 - 1. High density polyethylene (HDPE) geomembrane liner (minimum 60 mils) for the new Tailings Storage Cell;
 - 2. Geotextile fabric for the new Tailings Storage Cell sump and Drain Pipe; and
 - 3. Drainage piping, and necessary appurtenances

1.2 RELATED SECTIONS

- A. Section 02200—Earthwork

1.3 QUALIFICATIONS

- A. Installer: Authorized by manufacturer/fabricator with a minimum of five years of documented experience
- B. Liner manufacturer: Listed by the National Sanitation Foundation as having met Standard 54 for Flexible Membrane Liners, with a minimum of five (5) years continuous experience in the manufacture of HDPE geomembrane rolls and/or experience totaling 10,000,000 square feet of manufactured HDPE geomembrane

1.4 SUBMITTALS

- A. Shop drawings: Provide all connection details, panel layout and installation plan, recommend ballast spacing and layout, anchor details,
- B. Product data: Provide manufacturer's literature including materials of construction, performance characteristics, accessories, appurtenances and additional information necessary to determine compliance with these specifications. Provide information on manufacturer's quality control program, and manual or descriptive documentation
- C. Manufacturer/fabricator's certificate: Provide certification that liner and joining materials are suitable for intended service and exposure. Provide certificate of proper installation and certified test results showing that the liner and geotextile meet or exceed these specifications
- D. Installer's field report: Provide summary of installation and report all field modifications accepted by Engineer. Include results of all testing

1.5 WARRANTY

- A. Provide a twenty-year limited warranty from fabricator against defects in materials and workmanship. This warranty to begin with the date material is delivered
- B. Provide a separate ten-year limited warranty against defects in installed materials and workmanship, including water integrity from liner installer. Warranty to begin with the date that the installation is substantially completed and accepted by all parties

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store, handle, and protect products delivered to site in accordance with manufacturer's instructions
- B. Protect geomembrane and geotextile against puncture, dirt, grease, water, moisture, mud, mechanical abrasions, excessive heat and other potentially damaging entities/conditions
- C. Store geomembrane, and geotextile rolls on a prepared surface (not wooden pallets), and do not stack more than two high on soil subgrades
- D. Label each roll of geomembrane and geotextile with the following information:
 - 1. Product identification
 - 2. Roll number
 - 3. Thickness (geomembrane); weight (geotextile)
 - 4. Roll dimensions
 - 5. Resin type (where appropriate)
 - 6. Date of manufacture

1.7 EXTRA MATERIAL

- A. Dispose of extra material at Contractor's expense

PART 2 PRODUCTS

2.1 MANUFACTURER/FABRICATOR—HIGH DENSITY POLYETHYLENE (HDPE) GEOMEMBRANE LINER

- A. Poly-Flex, Inc.
- B. GSE Lining Technology, Inc.
- C. Approval Equal

2.2 HIGH DENSITY POLYETHYLENE (HDPE) GEOMEMBRANE LINER

- A. Materials—geomembrane and appurtenances:
 - 1. High density polyethylene, UV resistant

B. Physical properties:

1. The surface of the geomembrane shall not have striations, roughness, pinholes, bubbles, holes, blisters, undispersed raw materials, or contamination by foreign matter
2. The geomembrane shall meet the following properties:

**HIGH DENSITY POLYETHYLENE (HDPE) GEOMEMBRANE LINER
PHYSICAL PROPERTIES**

Property	Test Method	60 mil Test Results
Thickness, mils, minimum avg	ASTM D 1593	60
Thickness, mils, minimum value	ASTM D 1593	54
Density (g/cc), minimum	ASTM D 1505	0.94
Melt Index (g/10 min, maximum)	ASTM D 1238	0.4
Carbon Black content (percent)	ASTM D 1603	2-3
Carbon Black Dispersion	ASTM D 3015	Cat 1 or 2
Tensile Properties		
1. Tensile Strength at Yield (pounds/inch width)	ASTM D 638 Type IV specimen at 2 inches/minute	126
2. Tensile Strength at Break (pounds/inch width)		228
3. Elongation at Yield (percent)		12
4. Elongation at Break (percent)		700
Tear Strength (lbs)	ASTM D 1004 Die C	42
Puncture Resistance, minimum avg (lbs)		108
Stress Crack Resistance, hours	ASTM C 5397	200
Oxidative Induction Time (OIT) (min. avg)	ASTM D 3895	100
Standard OIT, minutes		
Oven Aging at 85°C	ASTM D 5721	55
Standard OIT, % retained after 90 days	ASTM D 3895	
UV Resistance	GRI GM11	50
High Pressure OIT, % retained after 1600 hours	ASTM D 5885	

* All, values, except when specified as minimum or maximum, represent average lot property values

2.3 FABRICATION, HDPE—QUALITY CONTROL

A. Inspection—performed on each roll:

1. Thickness:

- a. Cut full width sample from the end of each roll, and check thickness
2. Appearance:
 - a. Constantly monitor:
 - 1) Sheet surface appearance
 - 2) Knife-cut edge
 - 3) Folds, holes, creases, abrasions, or other damage
- B. Roll identification: Use at least four tags per roll:
 1. On the roll sleeve
 2. Inside the core
 3. On the production roll sample
 4. On the roll surface
- C. Out-of specification material: Any roll not meeting the specification for any of the above inspections shall be placed on hold
- D. Sampling: The lab shall take samples at approximately every 50,000 square feet of produced material, as well as any other samples needed
- E. Test each sample:
 1. Thickness: ASTM D 5199 or ASTM D 1593
 2. Tensile properties: ASTM D 638:
 - a. Tensile strength at yield
 - b. Tensile strength at break
 - c. Elongation at yield
 - d. Elongation at break
 3. Tear resistance: ASTM D 1004, Die C
 4. Puncture resistance: ASTM D 4833
 5. Carbon black content: ASTM D 1603
- F. Test the following on a daily basis:
 1. Density: ASTM D 1505, twice per day
 2. Carbon black dispersion: ASTM D 5596, twice per day
 3. Dimensional stability: ASTM D 1204, twice per day
 4. Modulus of elasticity: ASTM D 638 (Secant Modulus), once per day
- G. Reporting: Log all test results into the batch file. Any testing that yields out-of-spec results shall be brought to the immediate attention of the Q.C. Manager. All material produced after the last sample meeting all specifications shall be retrieved and placed on hold

2.4 ACCESSORIES

- A. Geotextile
 1. Manufacturers
 - a. Mirafi

- b. Approved equivalent
 - 2. Twelve ounce per square yard, non-woven polypropylene, geotextile
 - 3. Puncture strength, 175 lbs (ASTM D 4833)
 - 4. Flow rate, 85 gal/min/sq ft (ASTM D 4491)
- B. 6" Diameter corrugated HDPE slotted drainage pipe and fittings
 - 1. Manufacturers
 - a. Hancor
 - b. Advanced Drainage System (ADS)
 - c. Approved equivalent
 - 2. Minimum inlet area: 4 sq. in/foot
 - 3. Fittings: Same manufacturer
 - 4. Smooth wall or corrugated interior

PART 3 EXECUTION

3.1 GENERAL

- A. Install all material and equipment in accordance with the Drawings and Specifications, and instructions of the manufacturer/fabricator acceptable to the Engineer
- B. Place liner bedding layer as per Section 02200

3.2 SUBGRADE PREPARATION

- A. Prepare random fill placement as per Section 02200
- B. Place liner bedding layer as per Section 02200
- C. Provide smooth finish surface on liner bedding layer, free of all foreign and organic material, sharp objects, debris, stones, sticks, or other items that could puncture the liner. Standing water or excess moisture is not allowed
- D. Obtain review and inspection of the finished liner bedding layer from the Engineer and Liner Installer prior to placement of the geomembrane liner

3.3 INSTALLATION—GEOMEMBRANE LINING AND GEOTEXTILE LINING

- A. General installation procedure:
 - 1. Confirm proper excavation and berm slope and size including overexcavation requirements at sumps
 - 2. Place 60 mil HDPE geomembrane liner over compacted subgrade in areas required by the Engineer and as shown on the Drawings
 - 3. Place 60 mil HDPE geomembrane rub sheet over 60 mil HDPE geomembrane liner in areas required (around and under the sump structures)

4. Place geotextile cushion over rub sheet in areas required (around and under the sump structures)

B. Geomembrane liner installation—general:

1. Prevent damage to the geomembrane by handling, trafficking, or other means
2. Smoking, wearing damaging shoes, and other activities that could damage the liner are not allowed during liner installation
3. Unroll panels so as not to cause scratches or crimps in the geomembrane or damage the supporting soil or underlying geotextile
4. Provide temporary ballast (e.g. sand bags or similar items that will not damage the geomembrane) to prevent uplift by wind
5. Minimize direct contact with the geomembrane. Protect high traffic areas with geotextiles, extra geomembrane, or other suitable material
6. Install geomembrane liner during dry weather and between ambient temperatures of 32 degrees F to 105 degrees F. Do not place liner during periods of moisture or precipitation, or in the presence of excessive wind
7. Install liner in a relaxed condition, free of stress or tension upon completion of the installation. Stretching the liner to fit is not permitted
8. Replace or install liner sheet patch over all lining surfaces showing injury due to scuffing, penetration by foreign objects, or distress from rough subgrade as directed by the Engineer with an additional layer of HDPE of the proper size
9. Repair all portions of the lining damaged during installation by using an additional piece of the same membrane as specified here-in
10. Deep scratches may be repaired through HDPE extrusion where allowed by engineer
11. Ensure installation methods, specifically ballast placement, do not damage or reduce the quality of the liner
12. Provide anchor trench as per Drawings

C. Geomembrane liner installation—field seaming:

1. Provide field seams in accordance with liner manufacturer's guidelines accepted by Engineer
2. Provide double wedge fusion weld seams and extrusion welding field seaming processes as indicated in shop Drawings
3. For wedge fusion welds, overlap the geomembrane a minimum of four inches; for extrusion fillet welds overlap geomembrane a minimum of three inches
4. Use HDPE welding rods or beads with physical properties the same as those of the resin used in the manufacture of the HDPE geomembrane
5. Orient seams parallel to the line of maximum slope, i.e. oriented down, not across the slope. Do not locate seams where subgrade slopes intersect (corners). Where seams must be placed in geometrically unusual areas, minimize the number of field seams
6. No base T-seams closer than five feet from the toe of the slope. Align seams with the least number of wrinkles and "fishmouths." Relieve and capstrip fishmouths and/or wrinkles that are found

7. Maintain accurate record of all field seams
8. Perform field seaming under the weather conditions specified for geomembrane placement
9. Wipe contact surfaces of the panels to remove all dirt, dust, or other substance. Use NSF approved solvents for cleaning contact surfaces of field joints and for other uses. Use solvents recommended by the liner manufacturer accepted by Engineer

3.4 INSTALLATION—DRAINAGE PIPE

- A. Install drainage pipe, after sump and sand bag cushion have been installed.
- B. Drainage pipe flange will bolt to sump flanges.
- C. Ensure sufficient coverage of drainage pipe with geotextiles. Either seamless or double wrapped. If double wrapped ensure that end is sufficiently anchored. Install as shown on drawings.
- D. Bed pipe with 3/4 washed rock or clean gravel per the contract drawings to support the pipe and over the pipe to act as ballast

3.5 FIELD QUALITY CONTROL

- A. Provide field quality control for complete geomembrane liner and leak detection system
- B. Test double fusion weld seam integrity by air pressure testing. Minimum allowable applied pressure of 40 psi and acceptable pressure drop of 3 psi
- C. Test fillet welds by vacuum box test using soapy solution and application of 3 to 5 psi vacuum
- D. Test field seams for shear and peel in accordance with liner manufacturer's guidelines accepted by Engineer. All field seams must meet the following specifications:

Seam property	Test method	Requirements
Shear Strength	ASTM D 3083 (as modified in App A of NSF 54)	>95 percent of liner minimum yield strength
Peel Strength	ASTM D 413 (as modified in App A of NSF 54)	>70 percent of liner minimum yield strength and film tear bond

END OF SECTION

SECTION 05590

MISCELLANEOUS METAL

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Items fabricated from metal shapes, plates, sheets, rods, bars, or castings

1.2 RELATED SECTIONS

- A. Section 02200—Earthwork

1.3 REFERENCES

- A. AISC—Steel Construction Manual
- B. AISC—Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings
- C. ASTM A36—Carbon Structural Steel

1.4 SUBMITTALS

- A. Shop Drawings: Provide drawings which indicate sizes, dimensions, connection details and assembled weights.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect materials from bending under its own weight or super-imposed load

PART 2 PRODUCTS

2.1 MATERIALS

- A. Steel:
 - 1. Plates and shapes: ASTM A36

2.2 FABRICATION

- A. General:
 - 1. In accordance with dimensions, arrangement, sizes, and weights or thicknesses indicated on the shop Drawings or as specified
 - 2. All members free of winds, warps, local deformations, or unauthorized bends
 - 3. Holes and other provisions for field connection accurate and shop checked for proper fit

4. Mark each piece according to the erection drawing
5. Provide all field connection materials

B. Connections:

1. As indicated on Drawings, as specified or as required by manufacturers standards
2. Continuous Welds: Butt and miter welds, grind smooth exposed welds where welding is permitted or required

2.3 SHOP FINISHING

A. Preparation:

1. All surfaces to be at proper temperature, dry, and free of grease, oil, dirt, dust, grit, rust, loose mill scale, weld flux, slag, weld spatter, and other objectionable substances
2. Scrape, chip, and brush welds as required to remove all spatter
3. Dull sharp corners of cut or sheared edges with at least one pass of a power grinder

- B. Steel: Apply after fabrication as soon after cleaning is practicable. Apply in a heated structure if outside air temp is below 50 degree F, do not move or handle until coating is dry and hard

- C. Rust inhibitive shop primer for steel: Prime steels as specified under provisions of Section 09900

- D. Coal tar epoxy paint: Coat materials as specified under provisions of Section 09900

PART 3 EXECUTION

3.1 PREPARATION

- A. Before assembly, thoroughly clean all parts which will be in contact with each other

3.2 ERECTION AND INSTALLATION

- A. Assemble all parts accurately as indicated on Drawings

END OF SECTION

SECTION 09900

PAINTING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Surface preparation and application of primer and finish coatings for all new surfaces and existing surfaces as scheduled

1.2 RELATED SECTIONS

- A. Section 05590—Miscellaneous Metals

1.3 REFERENCES

- A. ASTM D16— Definitions of Terms Relating to Paint, Varnish, Lacquer, and Related Products
- B. SSPC (Steel Structures Painting Council)—Steel Structures Painting Manual

1.4 DEFINITIONS

- A. Conform to ASTM D16 for interpretation of terms used in this Section

1.5 SUBMITTALS

- A. Product data: Provide data on all primers and finishing products. Clearly identify paint type and intended use as outlined by schedules at the end of this section. Include material safety data sheets
- B. Manufacturer's instructions: Indicate special surface preparation procedures, substrate conditions requiring special attention, and other pertinent information
- C. Painting Schedule—to accomplish final color selection by Owner, prepare painting schedule identifying:
 - 1. All coatings for steel sump structure
 - 2. Surface preparation used
 - 3. Type of primer coating, film thickness, shop or field applied
 - 4. Type of finish coating, film thickness, shop or field applied

1.6 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years documented experience

- B. Applicator: Company specializing in performing the work of this section with minimum three years experience and approved by manufacturer for surface preparation and application of similar coating systems

1.7 REGULATORY REQUIREMENTS

- A. Comply with all health and fire regulations of agencies having jurisdiction for storage of materials
- B. Comply with current state requirements for air quality control permit and OSHA standards for sandblasting
- C. Comply with current state requirements for Volatile Organic Compounds (VOC's) of less than 3.5 pounds per gallon for all coatings

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Rust inhibitive general purpose primer:
 - 1. Tnemec—Series 66
 - 2. Approved equal
 - 3. None required if self priming Coal Tar Epoxy is used
- B. Coal tar epoxy:
 - 1. Tnemec—Series 46H-413 Hi-Build Tneme-Tar
 - 2. Approved equal

2.2 MATERIALS

- A. Use product of single manufacturer for coating systems for each type of surface

PART 3 EXECUTION

3.1 EXAMINATION

- A. All coatings to be shop applied
- B. Do not proceed with surface preparation or coating application until conditions are suitable
- C. Test shop applied primer for compatibility with subsequent cover materials

3.2 SANDBLASTING PROCEDURES

- A. Steel: Structural, tanks, pipe, angles, beams, equipment, wall plates, pipe hangers, rods, pipe supports, stairs, platforms, handrails, plus steel accessories:
 - 1. Submerged or partially submerged: SSPC-SP10

- B. Profile of sandblasted surface: 2 mils
- C. Do not allow surfaces to become wet after blasting and before painting
- D. Apply primer same day as blasting
- E. Do not reuse sand

3.3 APPLICATION

- A. Apply products in accordance with manufacturer's instructions

3.4 PROTECTION OF FINISHED WORK

- A. Prepare surface and re-coat surfaces damaged during delivery and installation or by construction activity

3.5 FIELD QUALITY CONTROL

- A. Dry film thickness (DFT) testing:
 - 1. Type 1: Magnetic pull-off type gage
 - 2. Type 2: Fixed probe magnetic flux gage with microprocessor
 - 3. Calibrate gage per manufacturers instructions
 - 4. Use eddy current type gage or probe attachment for non-ferrous metal substrates
 - 5. Gage accuracy: ± 10 percent

3.6 SCHEDULE—METAL SURFACES

- A. All submerged or partially submerged and exposed exterior surfaces, unless otherwise specified:
 - 1. Primer: One coat rust inhibitive general purpose shop primer—3 mils
 - 2. Finish: Two coats gloss alkyd enamel 16 mils
 - 3. Minimum total dry film thickness: 18 mils

END OF SECTION